

We claim:

1. An improved electronic chip package, comprising:

an electrical insulator;

top and bottom metallization layers associated with said insulator;

at least one integrated circuit (IC) device; and

at least one heat pipe placed between the electrical insulator and the IC device,

and soldered to the IC device, wherein the wall of the heat pipe is constructed so that thermal stresses in the IC device are reduced.

2. The improved electronic chip package as recited in claim 1, further comprising a

heat sink.

3. The improved electronic chip package as recited in claim 1, wherein the IC device

is surface mounted.

4. The improved electronic chip package as recited in claim 1, wherein said heat

pipe is constructed of copper.

5. The improved electronic chip package as recited in claim 1, wherein said IC

device is an insulated gate bipolar transistor (IGBT) chip.

6. An improved electronic chip package, comprising:

a case wall;

top and bottom metallization layers;

at least one integrated circuit (IC) device; and

5 at least one electrically insulating heat pipe placed between the case wall and the
IC device.

7. The improved electronic chip package as recited in claim 6, further comprising a
heat sink.

10 8. The improved electronic chip package as recited in claim 6, wherein the IC device
is surface mounted.

9. The improved electronic chip package as recited in claim 6, wherein said heat
15 pipe is constructed of ceramic.

10. The improved electronic chip package as recited in claim 9, wherein said heat
pipe is constructed of substances selected from the group consisting of aluminum oxide,
aluminum nitride and beryllium oxide.

11. The improved electronic chip package as recited in claim 6, wherein said IC device is an insulated gate bipolar transistor (IGBT) chip.

5 12. An improved electronic chip package, comprising:
an electrical insulator;
top and bottom metallization layers associated with said insulator; and
at least one integrated circuit (IC) device, wherein the bottom metallization layer
is connected to at least one heat pipe.

10 13. The improved electronic chip package as recited in claim 12, wherein the IC device is surface mounted.